

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/936,388	HOLZWARTH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Leith A Al-Nazer	2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--**

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to after-final amendment filed on 05 February 2004.
2. ☒ The allowed claim(s) is/are 5-15 and 20-36.
3. ☒ The drawings filed on 29 July 2002 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☒ All    b) ☐ Some\*    c) ☐ None    of the:
    1. ☒ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.


Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☒ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)                       |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br>Paper No./Mail Date _____. |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br>Paper No./Mail Date _____ | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment                               |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br>of Biological Material          | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance              |
|   | 9. <input type="checkbox"/> Other _____   |

  
 PAUL IP  
 SUPERVISORY PATENT EXAMINER  
 TECHNOLOGY CENTER 2800

## **DETAILED ACTION**

### ***Oath/Declaration***

1. The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because:

Inventor Theodor W. Hansch did not date his portion of the form.

## **EXAMINER'S AMENDMENT**

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Joseph Powers on March 2, 2004.

3. Claims 33-36 have been amended as follows:

Claim 33. A process [[Process]] for the operation of a laser device having a resonator configuration with a light path, comprising the steps of:

Art Unit: 2828

generating [[producing]] light pulses circulating in the resonator configuration, said light pulses consisting of [[a]] spectral components corresponding to multiple longitudinal modes of the resonator configuration;

compensating for the group velocity dispersion of said light pulses [[subjecting said light pulses to a compensation of the group velocity dispersion]]; and

inputting [[introducing]] a predetermined linear dispersion into the light path of the resonator configuration, so that at least one mode possesses a predetermined frequency or the mode separation between the modes possesses a predetermined value;

said step of inputting [[introducing]] a predetermined linear dispersion comprising at least one of a tilting of a transparent plane, a pushing in of a pair of prisms in the light path of the resonator configuration, a setting of the effective pumping power for the pumping of the active medium of the laser device, or a change of the geometric configuration of the laser device relative to a pump laser.

Claim 34.     A process [[Process]] for the operation of a laser device having a resonator configuration with a light path, comprising the steps of:

generating [[producing]] light pulses circulating in the resonator configuration, said light pulses consisting of [[a]] spectral components corresponding to multiple longitudinal modes of the resonator configuration;

compensating for the group velocity dispersion of said light pulses [[subjecting said light pulses to a compensation of the group velocity dispersion]]; and

Art Unit: 2828

inputting [[introducing]] a predetermined linear dispersion into the light path of the resonator configuration, so that at least one mode possesses a predetermined frequency or the mode separation between the modes possesses a predetermined value;

said step of inputting [[introducing]] a predetermined linear dispersion comprising [[a]] changing a spectrally specific effective resonator length in a resonator branch, through which the light pulses traverse spectrally spatially separated after the compensation of the group velocity dispersion.

Claim 35.     A laser [[Laser]] device for production of short light pulses, having a resonator configuration with

an active medium;

a [[plurality of]] resonator formed with an optical fiber or with a plurality of mirrors, including [[with]] an incoupling mirror for the coupling in of pump light to the active medium[[,]] and two or more tilted mirrors for directing resonating light to an outcoupling mirror for the output of light pulses [[and several tilted mirrors]];

a compensating mechanism for the compensation of the group velocity dispersion of the light pulses;

a dispersion setting device for the input [[introduction]] of a predetermined linear dispersion into the light path of the resonator configuration; and

said dispersion setting device comprising at least one of a transparent plate with a tilting mechanism, a pair of prisms with a sliding mechanism, which are included in the resonator configuration, an apparatus for the variation of the effective pump power of a [[the]] pump laser,

Art Unit: 2828

or an apparatus for the variation of the geometrical configuration of the laser device relative to the ~~[[a]]~~ pump laser.

Claim 36.     A laser ~~[[Laser]]~~ device for production of short light pulses, having a resonator configuration with

an active medium;

a ~~[[plurality of]]~~ resonator formed with an optical fiber or with a plurality of mirrors, including ~~[[with]]~~ an incoupling mirror for the coupling in of pump light to the active medium~~[[,]]~~ and two or more tilted mirrors for directing resonating light to an outcoupling mirror for the output of light pulses ~~[[and several tilted mirrors]]~~;

a compensating mechanism for the compensation of the group velocity dispersion of the light pulses;

a dispersion setting device for the input ~~[[introduction]]~~ of a predetermined linear dispersion into the light path of the resonator configuration; and

said dispersion setting device comprising a pivoting mechanism on a tilted mirror functioning as a resonator end mirror and being located in a branch of the resonator on the side of the compensating mechanism facing away from the active medium.

***Allowable Subject Matter***

4.     Claims 5-15 and 20-36 are allowed.

5.     The following is an examiner's statement of reasons for allowance:

Art Unit: 2828

The prior art of record does not teach some of the limitations found in independent claims 33-36. Kafka et al '698 teaches a similar system to that of the present invention. However, Kafka does not teach a compensating mechanism for the compensation of group velocity dispersion of the resonating light pulses. Therefore, independent claims 33-36, as well as all dependent claims, are allowable over the prior art of record.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Communication Information***


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Leith A Al-Nazer whose telephone number is 571-272-1938. The examiner can normally be reached on Monday-Friday 7:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on 571-272-1941. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Art Unit: 2828

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LA

  
PAUL IP  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2800